

## **REMARKS**

Reconsideration of the application in light of the following remarks is respectfully requested.

### **Status of the Claims**

Claims 1-14 are pending.

### **Allowable Subject Matter**

Applicant appreciatively acknowledges the Examiner's allowance of claim 14, as well as the indication of allowable subject matter in claims 4 and 10.

### **Rejection Under 35 U.S.C. § 102**

Claims 1, 8, 12 and 13 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Published Application No. 2004/0145525 to Annabi et al. ("Annabi"). Applicants respectfully traverse this rejection.

Applicant submits that Annabi discloses a planar antenna, the radiator of which is fed electromagnetically through a feed element 16. The antenna also includes a separate tuning arrangement 40 for shifting the operating band to a desired place. Applicant respectfully submits that the Examiner has misunderstood Annabi as demonstrated below:

(1) The Examiner contends that "Annabi discloses -- a feed circuit (20 and 40) that couples the antenna feed point (18) to an antenna port . . . ." Detailed Action, page 3. Here the Examiner has lumped together the coaxial feeder cable 20 and its center conductor 18, which are connected to passive element 16, with the matching element 40, which is constituted by conductive surface 50 (see Annabi, ¶¶ 0050-51).

Applicant submits that neither the coaxial feeder cable 20 nor the matching element 40 constitute "a feed circuit that couples the antenna feed point to an antenna port of the radio

device, wherein the feed circuit includes a reactive component” as recited in independent claims 1 and 13. A coaxial cable is of course not a feed circuit, and the matching element has nothing to do with the antenna feed. Annabi expressly emphasizes the distinctiveness of passive component 16 (opposite the feed zone A1), and the matching element 40 (opposite the matching zone A2) of the radiating plane 12 (*see* ¶¶ 0046, 0051, Fig. 7a, and claim 9).

(2) The Examiner contends that “the feed circuit includes a reactive component (Figure 7A, element 54).” Detailed Action, page 3. Annabi discloses that variable capacitor 54 couples conductive plate 50 of the matching element 40 to the ground plane 10. Annabi, ¶ 0054, Fig. 7a. Thus, variable capacitor 54 is part of the matching element and not a part of “feed circuit [which] includes a reactive component,” as recited in independent claims 1 and 13.

(3) The Examiner contends that the feed circuit “also couples the antenna feed point (element 18, adjacent to the ground plane, wherein feed element is electromagnetically coupled to the ground plane similarly to the applicant’s interpretation based on figure 4B in the specification) to the ground plane (10).” Detailed Action, page 3. Here the Examiner considers the central conductor 18 of coaxial feeder 20 to be the feed circuit. The central conductor 18 is directed towards the passive component 16 via a hole in the ground plane perpendicular to it (*see* Fig. 7a). Therefore the electromagnetic coupling between the central conductor 18 and the ground plane 10 is negligible.

Application Fig. 4b, to which the Examiner refers, depicts a structure that a person of ordinary skill would understand to show that there is an evident electromagnetic coupling from the feed conductor 422 to the ground through the PAD. *See* Specification page 4, line 27 thorough page 28, line 7. Accordingly, the similarity suggested by the Examiner has no basis,

particularly when Annabi distinguishes so clearly between the antenna feed and matching elements.

(4) The Examiner contends that “whereby said at least one operating band is set to a desired range on the frequency axis and to match the antenna (paragraphs 64-67).” Detailed Action, page 3. The Examiner’s reliance on ¶¶ 0064-67 is misplaced, as only the matching component 40 is described in these passages. As demonstrated above, Annabi’s disclosure of a matching component is distinct and separate from an antenna feed.

For the reasons demonstrated above, Annabi neither discloses, nor suggests, each and every element of independent claims 1 and 13. Therefore, Annabi does not anticipate claims 1 and 13. Claims 8 and 12 depend from claim 1, and recite additional elements. Thus, claims 8 and 12 are distinguishable over Annabi for at least the same reasons as their base claim. Reconsideration and withdrawal of the rejection are requested.

#### **Rejection Under 35 U.S.C. § 103**

Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Annabi in view of U.S. Patent No. 6,252,552 to Tarvas et al. (“Tarvas”). Applicants respectfully traverse this rejection.

Claims 5-7 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Annabi and Tarvas in view of U.S. Patent No. 6,469,673 to Kaiponen. Applicants respectfully traverse this rejection.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Annabi in view Kaiponen. Applicants respectfully traverse this rejection.

Claims 2, 3, 5-7, 9 and 11 depend from claim 1. Claims 2, 3, 5-7, 9 and 11 recite additional elements beyond their base claim. Therefore, claims 2, 3, 5-7, 9 and 11 are distinguishable over Annabi in combination with Tarvas (claims 2-3); in combination with Tarvas and Kaiponen (claims 5-7 and 11); and in combination with Kaiponen (claim 9) for at

least the same reasons as their base claim. Thus, the Examiner has failed to meet the burden of establishing a *prima facie* case of obviousness over claims 2, 3, 5-7, 9 and 11. Reconsideration and withdrawal of the rejection are requested.

### **CONCLUSION**

Each and every point raised in the Office Action dated February 8, 2008 has been addressed on the basis of the above remarks. In view of the foregoing it is believed that claims 1-14 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

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Respectfully submitted,

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